

AMENDMENT UNDER 37 C.F.R. § 1.111
U.S. APPLN. NO. 09/729,177
ATTORNEY DOCKET NO. Q61789

REMARKS

Applicants thank the Patent Office for acknowledging Applicant's claim to foreign priority, and for indicating that the certified copy of the priority document, European Patent Application No. 99403062.5 dated December 6, 1999, has been made of record in the file.

Claims 1-15 have been examined on their merits.

Applicants herein cancel claim 4 without prejudice and/or disclaimer.

Applicants herein add new claims 16 and 17. Entry and consideration of the new claims 16 and 17 is respectfully requested.

Applicants herein amend claims 5 and 10 to correct their dependency, and Applicants amend claims 2-4, 7, 9, 10, 13 and 15 for antecedent basis reasons. Entry and consideration of the amendments to claims 2-5, 7, 9, 10, 13 and 15 is requested.

Claims 1-3 and 5-17 are all the claims presently pending in the application.

1. Claims 1, 2, 6 and 7 stand rejected under 35 U.S.C. § 102(b) as allegedly being anticipated by Arnon (U.S. Patent No. 4,757,530). Applicants traverse the rejection of claims 1, 2, 6 and 7, and insofar as the rejection applies to new claims 16 and 17, for at least the reasons discussed below.

To support a conclusion that a claimed invention lacks novelty under 35 U.S.C. § 102, a single source must teach all of the elements of a claim. *Hybritech Inc. v. Monoclonal Antibodies, Inc.*, 802 F.2d 1367, 1379 (Fed. Cir. 1986). A claim is anticipated only if each and every element as set forth in the claim is found either expressly or inherently in a single prior art

reference. *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631 (Fed. Cir. 1987).

A single source must disclose all of the claimed elements arranged as in the claim. *Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, 1236 (Fed. Cir. 1989). Rejections under 35 U.S.C. § 102 are proper only when the claimed subject matter is identically disclosed or described in the prior art. Thus, the cited reference must clearly and unequivocally disclose every element and limitation of the claimed invention.

Arnon fails to teach or suggest at least the tuning of tunable balance elements to be substantially equal to a scaled impedance value of a parallel circuit comprising the line termination resistance in transmission paths of the hybrid bridge and the line impedance, as recited in claim 1. Instead, Arnon measures the degree of correlation between an input signal and an output signal. *See, e.g.*, col. 3, lines 8-12 of Arnon. There is no discussion in Arnon of a parallel circuit that comprises line termination resistance in transmission paths of the hybrid bridge and the line impedance, or of tuning balance elements in a hybrid bridge to be substantially equal to a scaled impedance value of the parallel circuit.

Based on the foregoing reasons, Applicants submit that Arnon fails to teach or suggest all of the claimed elements as arranged in claim 1. Therefore, under *Hybritech* and *Richardson*, Arnon clearly cannot anticipate the present invention as recited in independent claim 1. Thus, Applicants submit that claim 1 allowable, and further submit that claim 2 and new claims 16 are allowable as well, at least by virtue of their dependency from claim 1. Applicants respectfully request that the Patent Office withdraw the § 102(b) rejection of claims 1 and 2.

With respect to independent claim 6, Applicants submit that claim 6 is allowable for at least reasons analogous to those discussed above with respect to claim 1, in that Arnon fails to teach or suggest at least a parallel circuit that comprises line termination resistance in transmission paths of the hybrid bridge and the line impedance, or of tuning balance elements in a hybrid bridge to be substantially equal to a scaled impedance value of the parallel circuit. Therefore, under *Hybritech* and *Richardson*, Applicants submit that claim 6 is allowable, and further submit that claim 7 and new claim 17 are allowable as well, at least by virtue of their dependency from claim 6. Applicants respectfully request that the Patent Office withdraw the § 102(b) rejection of claims 6 and 7.

2. Claim 3 stands rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Arnon. Applicants traverse the rejection of claim 3 for at least the reasons discussed below.

The initial burden of establishing that a claimed invention is *prima facie* obvious rests on the USPTO. *In re Piasecki*, 745 F.2d 1468, 1472 (Fed. Cir. 1984). To make its *prima facie* case of obviousness, the USPTO must satisfy three requirements:

- a). The prior art relied upon, coupled with the knowledge generally available in the art at the time of the invention, must contain some suggestion or incentive that would have motivated the artisan to modify a reference or to combine references. *In re Fine*, 837 F.2d 1071, 1074 (Fed. Cir. 1988).
- b). The proposed modification of the prior art must have had a reasonable expectation of success, and that determined from the vantage point of the artisan at the time the

invention was made. *Amgen, Inc. v. Chugai Pharm. Co.*, 927 F.2d 1200, 1209 (Fed. Cir. 1991).

- c). The prior art reference or combination of references must teach or suggest all the limitations of the claims. *In re Vaeck*, 20 U.S.P.Q.2d 1438, 1442 (Fed. Cir. 1991); *In re Wilson*, 424 F.2d 1382, 1385 (CCPA 1970).

The motivation, suggestion or teaching may come explicitly from statements in the prior art, the knowledge of one of ordinary skill in the art, or, the nature of a problem to be solved. *In re Dembiczak*, 175 F.3d 994, 999 (Fed. Cir. 1999). Alternatively, the motivation may be implicit from the prior art as a whole, rather than expressly stated. *Id.* Regardless if the USPTO relies on an express or an implicit showing of motivation, the USPTO is obligated to provide particular findings related to its conclusion, and those findings must be clear and particular. *Id.* A broad conclusionary statement, standing alone without support, is not “evidence.” *Id.*; *see also, In re Zurko*, 258 F.3d 1379, 1386 (Fed. Cir. 2001).

In addition, a rejection cannot be predicated on the mere identification of individual components of claimed limitations. *In re Kotzab*, 217 F.3d 1365, 1371 (Fed. Cir. 2000). Rather, particular findings must be made as to the reason the skilled artisan, with no knowledge of the claimed invention, would have selected these components for combination in the manner claimed. *Id.*

Arnon fails to teach or suggest the tuning of tunable balance elements to be substantially equal to a scaled impedance value of a parallel circuit comprising the line termination resistance in transmission paths of the hybrid bridge and the line impedance, as recited in claim 1 and

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included in claim 3 via dependency. Although admittedly Arnon illustrates tunable elements, there is no additional teaching or suggestion that those tunable elements are tuned to be substantially equal to an impedance value of a parallel circuit comprising the elements recited in claim 3. Thus, Applicants submit that the Patent Office cannot fulfill the “all limitations” prong of a *prima facie* case of obviousness, as required by *In re Vaeck*.

Applicants submit that one of skill in the art would not be motivated to modify the reference. Although the Patent Office provides a motivation analysis with respect to tuning the tunable elements with respect to reducing transmission gain loss, Arnon lacks any teaching or suggestion of tuning balance elements to be substantially equal to a scaled impedance value of a parallel circuit comprising the line termination resistance in transmission paths of the hybrid bridge and the line impedance. Thus, Applicants submit that the Patent Office cannot fulfill the motivation prong of a *prima facie* case of obviousness, as required by *In re Dembiczak* and *In re Zurko*.

Based on the foregoing reasons, Applicants submit that the Arnon fails to teach or suggest all of the claimed elements as arranged in claim 3. Therefore, Arnon clearly cannot render the present invention obvious as recited in claim 3. Thus, Applicants submit that claim 3 is allowable, and respectfully request that the Patent Office withdraw the § 103(a) rejection of claim 3.

3. Claims 4, 5 and 8-15 stand rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Arnon in view of Kakuishi (U.S. Patent No. 5,287,406). The rejection of claim 4 is now moot due to its cancellation. Applicants traverse the rejection of claims 5 and 8-15 for at least the reasons discussed below.

As discussed above with respect to claim 1, the Patent Office admits that Arnon fails to teach or suggest the tuning of tunable balance elements of a hybrid bridge to be substantially equal to a scaled impedance value of a parallel circuit comprising the line termination resistance in transmission paths of the hybrid bridge and the line impedance, as recited in claim 1 and included via dependency in claim 5. Therefore, the Patent Office must rely upon Kakuishi to supply the necessary disclosure. However, combining Kakuishi with Arnon still fails to teach or suggest the invention recited in claim 5, since none of the references teach or suggest measuring the input and output transmission voltages in order to determine the transmission return loss gain. While Kakuishi discloses a formula related to line impedances, the Patent Office cannot point to any teaching or suggestion in either Kakuishi or Arnon that teaches or suggests an impedance value of a parallel circuit comprising the line termination resistance in transmission paths of the hybrid bridge and the line impedance. Moreover, the Patent Office has not pointed to any teaching or suggestion in the combination of Arnon and Kakuishi that discloses the setting the value of a tunable balance impedance to approximate the scaled impedance in the aforementioned parallel circuit. Finally, the combination of Kakuishi and Arnon does not disclose a digital control means for controlling the tunable balance elements of such a hybrid.

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Thus, Applicants submit that the Patent Office cannot fulfill the “all limitations” prong of a *prima facie* case of obviousness, as required by *In re Vaeck*.

Applicants submit that one of skill in the art would not be motivated to combine the two references. Although the Patent Office provides a motivation analysis with respect to manufacturing a lower-cost hybrid bridge circuit, Kakuishi and Arnon lack any teaching about the desirability of tuning balance elements to be substantially equal to the parallel circuit recited in claim 1 and included in claim 5 via dependency. The combination further lacks any motivation with respect to accomplishing such tuning via a digital control means. Thus, Applicants submit that the Patent Office cannot fulfill the motivation prong of a *prima facie* case of obviousness, as required by *In re Dembiczak* and *In re Zurko*.

Based on the foregoing reasons, Applicants submit that the combination of Kakuishi and Arnon fails to disclose all of the claimed elements as arranged in claim 5. Therefore, the combination of Kakuishi and Arnon clearly cannot render the present invention obvious as recited in claim 5. Thus, Applicants submit that claim 5 is allowable, and respectfully request that the Patent Office withdraw the § 103(a) rejection of claim 5.

Claims 8-15 depend from claim 6, and therefore incorporate all the recitations of claim 6 by virtue of their dependency.

The combination of Kakuishi and Arnon does not teach or suggest all of the claimed elements as arranged in claim 6, and included in claims 8-15 via dependency. Specifically, the combination fails to teach or suggest tunable balance elements that are tuned to be substantially equal to an impedance value of a combination of a scaled termination resistance value in parallel


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with a scaled line and transformer termination value. *See* the above discussion with respect to claim 5. Applicants submit that the Patent Office cannot fulfill the “all limitations” and motivation prongs of a *prima facie* case of obviousness at least for reasons analogous to those discussed above with respect to claim 5. Applicants respectfully request that the Patent Office withdraw the § 103(a) rejection of claims 8-15.

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

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